INDEX

	Page
Opinion below	1
Jurisdiction	1
Question presented	2
Constitutional provision and statutes involved	2
Statement	4
Introduction and summary	9
Argument:	
I. The Adams battery was not new	14
II. Even if the Adams battery could be considered new, the innovation was one which "would have been obvious at the time the invention was made to a person having ordinary skill in the art"	19
Conclusion	23
Appendix:	
The relationship of Section 103 of the Patent Act of 1952 (35 U.S.C. 103) to the common-law standard of patentability formulated in *Hotchkiss* v. *Greenwood*	25

CITATIONS

Cases:	
A. & P. Tea Co. v. *Supermarket Corp.*, 340 U.S. 147	11, 18
Atlantic Works v. *Brady*, 107 U.S. 192	10, 33
Berlin Mills Co. v. *Procter & Gamble Co.*, 254 U.S. 156	33
Brown v. *Piper*, 91 U.S. 37	33
Burt v. *Evory*, 133 U.S. 349	33
Concrete Appliances Co. v. *Gomery*, 269 U.S. 177	33

785-361—65——1

Cases—Continued

	Page
Cuno Engineering Corp. v. *Automatic Devices Corp.*, 314 U.S. 84	20, 33
Densmore v. *Scofield*, 102 U.S. 375	33
Diamond Rubber Co. v. *Consolidated Tire Co.*, 220 U.S. 428	11
Dow Chemical Co. v. *Halliburton Oil Well Cementing Co.*, 324 U.S. 320	22
Dunbar v. *Myers*, 94 U.S. 187	33
Fisch v. *Gould*, 246 F. 2d 5, certiorari denied, 355 U.S. 914	34
Florsheim v. *Schilling*, 137 U.S. 64	33
Great A. & P. Tea Co. v. *Supermarket Equipment Corp.*, 340 U.S. 147	20, 22, 33
Hollister v. *Benedict Mfg. Co.*, 113 U.S. 59	33
Hotchkiss v. *Greenwood*, 11 How. 248	19, 20, 25, 26, 31, 32, 33, 34, 35, 36
Jungersen v. *Ostby & Barton Co.*, 335 U.S. 560	22, 33
Keystone Mfg. Co. v. *Adams*, 151 U.S. 139	11
Lyon v. *Bausch & Lomb Optical Co.*, 224 F. 2d 530, certiorari denied, 350 U.S. 911	32, 34
McClain v. *Ortmayer*, 141 U.S. 419	22
Mantle Lamp Co. v. *Aluminum Co.*, 301 U.S. 544	33
Morris v. *McMillin*, 112 U.S. 244	33
Pacific Contract Laboratories v. *Solex Laboratories*, 209 F. 2d 529, certiorari denied, 348 U.S. 816	32
Pearce v. *Mulford*, 102 U.S. 112	33
Phillips v. *Detroit*, 111 U.S. 604	33
Pope Mfg. Co. v. *Gormully*, 144 U.S. 224	10
Potts v. *Creager*, 155 U.S. 597	33
Reckendorfer v. *Faber*, 92 U.S. 347	33
Reiner v. *I. Leon Co.*, 285 F. 2d 501, certiorari denied, 366 U.S. 929	35

Cases—Continued
Page
Saranac Machine Co. v. *Wirebounds Co.*, 282 U.S. 704 ---- 33
Sinclair & Carroll Co. v. *Interchemical Corp.*, 325 U.S. 327 ---- 20, 22, 33
Slawson v. *Grand Street R. R. Co.*, 107 U.S. 649 ---- 33
Smith v. *Hall*, 301 U.S. 216 ---- 22
Smith v. *Whitman Saddle Co.*, 148 U.S. 674 ---- 33
Stimpson v. *Woodman*, 77 U.S. 117 ---- 33
Toledo Pressed Steel Co. v. *Standard Parts Inc.*, 307 U.S. 350 ---- 22, 33
Vermont Structural State Co. v. *Tatko Brothers Slate Co.*, 233 F. 2d 9 ---- 35
Constitution and statutes:
U.S. Constitution:
Article I, Section 8 ---- 2, 25
Act of April 10, 1790, 1 Stat. 109 ---- 25
Act of February 21, 1793, 1 Stat. 318 ---- 26
Act of July 4, 1836, 5 Stat. 117 ---- 26
Act of July 8, 1870, 16 Stat. 198 ---- 26
Act of July 19, 1952, 66 Stat. 792 ---- 26
Section 4(a) ---- 34
Revised Statutes of 1874, Section 4886 ---- 26
28 U.S.C. 1491 ---- 4
28 U.S.C. 1498 ---- 2, 4
35 U.S.C. 101 ---- 3, 8, 12, 14, 15, 19, 31
35 U.S.C. 102 ---- 3, 8, 18
35 U.S.C. 102 (a), (e) ---- 3
35 U.S.C. 103 ---- 3, 8, 12, 13, 19, 20, 23, 25, 27, 28, 29, 30, 31, 32, 33
35 U.S.C. 271 ---- 27
35 U.S.C. 282 ---- 4, 17
Reviser's Note, 35 U.S.C. 103 ---- 21, 31, 32

Congressional material:
An Analysis of Patent Litigation Statistics, Staff Report of the Senate Subcommittee on Patents, Trademarks and Copyrights of the Committee on the Judiciary, 86th Cong., 2d Sess. — Page 27
98 Cong. Rec. 9097 — 30
98 Cong. Rec. 9323 — 31
104 Cong. Rec. 4419 — 32
Hearings before Subcommittee No. 3 of the House Committee on the Judiciary on H.R. 3760, "A Bill to Revise and Codify the Laws Relating To Patents and the Patent Office, and To Enact Into Law Title 35 of the United States Code Entitled 'Patents' ", 82d Cong., 1st Sess. — 25, 28
H.R. 9133, 31st Cong., 2d Sess. — 28
H.R. 7794, 82d Cong., 2d Sess. — 29
H. Rep. 1923, 82d Cong., 2d Sess. — 25, 27, 29
Proposed Revision and Amendment of the Patent Laws, Subcommittee No. 4 of the House Committee on the Judiciary, 82d Cong., 1st Sess. — 28
S. Rept. 1979, 82d Cong., 2d Sess. — 25, 29
S. Rept. 1464, 84th Cong., 2d Sess. — 32
S. Rept. 72, 85th Cong., 1st Sess. — 32
S. Rept. 1430, 85th Cong., 2d Sess. — 32
Miscellaneous:
Federico, *Commentary on the New Patent Act,* 35 U.S.C.A. 1 — 25
Note, *Section 103 of the "Patent Act and the Standard of Invention" Comments on Lyon* v. *Bausch & Lomb Optical Co.,* 44 Geo. L. J. 100 — 32
Note, *The Standard of Patentability—Judicial Interpretation of Section 103 of the Patent Act,* 63 Col. L. R. 306 — 35

In the Supreme Court of the United States

OCTOBER TERM, 1965

No. 55

UNITED STATES OF AMERICA, PETITIONER

v.

BERT N. ADAMS, ET AL.

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF CLAIMS

BRIEF FOR THE UNITED STATES

OPINION BELOW

The opinion of the Court of Claims is reported at 330 F. 2d 622 (R. 689–710).

JURISDICTION

The judgment of the Court of Claims was entered on April 17, 1964 (R. 689), and a timely petition for rehearing was denied on October 16, 1964 (R. 712). By order dated January 21, 1965, the Chief Justice extended the time for filing a petition for a writ of certiorari to and including February 13, 1965 (R. 714). The petition for a writ of certiorari was filed on February 12, 1965, and was granted on March

29, 1965 (R. 715). The jurisdiction of this Court is invoked under 28 U.S.C. 1255(1).

QUESTION PRESENTED

Whether a battery, using known battery components in an allegedly new combination, meets the standard of patentability.

CONSTITUTIONAL PROVISION AND STATUTES INVOLVED

Article I, Section 8, of the Constitution of the United States provides:

> The Congress shall have Power * * * [clause 8] [t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.

Title 28 of the United States Code provides, in pertinent part:

> § 1498. Whenever an invention described in and covered by a patent of the United States is used or manufactured by or for the United States without license of the owner thereof or lawful right to use or manufacture the same, the owner's remedy shall be by action against the United States in the Court of Claims for the recovery of his reasonable and entire compensation for such use and manufacture.
>
> For the purposes of this section, the use or manufacture of an invention described in and covered by a patent of the United States by a contractor, a subcontractor, or any person, firm, or corporation for the Government and with the authorization or consent of the Government, shall be construed as use or manufacture for the United States.

Title 35 of the United States Code provides, in pertinent part:

§ 101. Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

§ 102. A person shall be entitled to a patent unless—

(a) The invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or

* * * * *

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent * * *.

* * * * *

§ 103. A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

* * * * *

§ 282. A patent shall be presumed valid. The burden of establishing invalidity of a patent shall rest on a party asserting it.

The following shall be defenses in any action involving the validity or infringement of a patent and shall be pleaded:

* * * * *

(2) Invalidity of the patent or any claim in suit on any ground specified in part II of this title as a condition for patentability,

* * * * *

STATEMENT

This suit was brought against the United States in the Court of Claims under 28 U.S.C. 1498 to recover for infringement of United States Letters Patent No. 2,322,210, issued on June 22, 1943, to Bert N. Adams.[1] The patent covers a battery which generates electricity by chemical interaction.[2] The Adams battery consists of a glass jar containing a fluid electrolyte into which are placed two electrodes—one (the positive electrode or anode) made of magnesium and the other (the negative electrode or cathode) of cuprous chloride "fused"[3] with a carbon catalyst.

[1] The respondents also sought damages under 28 U.S.C. 1491 for breach of implied contract. Initially, the Court of Claims found it unnecessary to pass upon this claim (R. 689, n. 2). In its *per curiam* denial of cross post-judgment petitions, however, it held that "The facts in this case do not establish the existence of a contract, express or implied, between defendant and plaintiffs" (R. 712).

[2] The specifications and drawings of the Adams patent appear at R. 393–395.

[3] "Fused" describes the way in which the cuprous chloride, a powder, is formed into the electrode shape: The powder is melted and cast into a mold at a temperature of from 400° to 500° centigrade.

Electrical voltage is produced by an electro-chemical reaction involving the electrolyte and the two electrodes. The invention claimed was "a battery comprised of a magnesium electropositive electrode (anode), a cuprous chloride electronegative electrode (cathode), and a water electrolyte" (R. 698).[4]

On January 10, 1942, Adams disclosed his battery to the Army's Chief Signal Officer and on January

[4] The two claims of the Adams patent (containing eleven claims in all) upon which the finding of validity below was based were claims 1 and 10. The trial commissioner found that plaintiffs "relied specifically on [these] claims." (R. 701.) Claims 1 and 10 read, in their entirety, as follows (R. 395):

> 1. A battery comprising a liquid container, a magnesium electropositive electrode inside the container and having an exterior terminal, a fused cuprous chloride electronegative electrode, and a terminal connected with said electronegative electrode.
>
> 10. In a battery, the combination of a magnesium electropositive electrode, and an electronegative electrode comprising cuprous chloride fused with a carbon catalytic agent.

Since the claims upon which validity was based do not describe the nature of the electrolyte used in the battery, we do not treat the composition of the electrolyte as relevant to the existence of a patentable invention. This is consistent with the treatment in the Court of Claims. We note, however, that the trial commissioner's findings erroneously describe the electrolyte as a "water electrolyte" (R. 698). In fact, claims 3, 4, 6 and 7 of the patent describe the electrolyte as either "a liquid body comprising sulphate of magnesium and water" or "a liquid body comprising sulphate of magnesium, water, and fused chloride of magnesium." (R. 395.) The record suggests that such a liquid is a common electrolyte. (R. 220.) With regard to the use of carbon as a catalyst in the cuprous chloride electrode (described in claim 10 but not in claim 1), the Court of Claims similarly did not find that factor relevant to the existence of a patentable invention (see Findings 9, 15 through 21 and 35 of the trial commissioner, R. 649, 654–655, 658) and we do not treat it as such here.

785-361—65——2

8, 1942, to the Navy Department (R. 659). Discovering that the Adams battery, because it generated excessive heat, was impractical for military purposes, the Army undertook to improve it. After extended experimentation, it found that satisfactory results could be obtained by using a cuprous chloride cathode in the form of a paste instead of in a fused form.[5] The United States proceeded to manufacture and use such a battery (R. 656).

In response to the claim of infringement, the United States asserted as its primary defense that the Adams patent was invalid as not disclosing a sufficient advance over the prior art (R. 702). The United States urged that the "invention" claimed by Adams—the combination of a magnesium anode and a cuprous chloride cathode[6]—could not constitute a patentable invention because the use of each of the elements to perform the function shown by Adams had been well known in the art before the Adams battery.

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[5] By use of the Army's method, the paste is affixed to grid or mesh pellets approximating the size of a postage stamp. Each pellet is encased by an absorbent cotton bilubus separator and a series of these wafer-like electrodes is stacked in a wax paper box (approximately 3″ x 6″). When use of the battery is desired, water is poured into the box. The water drains out but the cotton absorbs enough moisture to activate the battery. In preparing the "pasted" electrodes there is no need to heat the cuprous chloride at temperatures even closely approaching the 400°-500° centigrade temperature to which cuprous chloride must be subjected in fashioning one of the electrodes employed in the Adams battery.

[6] Findings 9 and 15 through 21 of the trial commissioner (R. 649, 654–655) make it clear that this was the combination found patentable. See n. 4, *supra*, p. 5.

For example, the United States showed that both an 1880 treatise (R. 703) and an 1883 patent (No. 282,634 issued to P. S. Hayes, R. 515–517) describe a battery comprised of a jar containing an electrolyte, a zinc anode and a fused silver chloride cathode. The Adams battery differed in that Adams replaced the zinc anode with a magnesium anode and the fused silver chloride cathode with a fused cuprous chloride cathode. However, these substitutions (magnesium for zinc and cuprous chloride for silver chloride) were of recognized chemical equivalents commonly known to be interchangeable in the construction of a battery: It was well known that magnesium, closely chemically related to zinc, would serve as an anode in the place of zinc and that cuprous chloride would serve as a cathode in place of chemically similar silver chloride. As illustrations of this, a treatise on batteries written in 1929 (R. 553) explicitly suggested the substitution of magnesium for zinc as the anode of a battery (R. 554) and set forth tables (R. 556, 562) showing this equivalence and also that copper was similarly substitutable for silver in the chloride compound making up the cathode. An 1891 British patent (issued to Wensky, R. 597) demonstrated explicitly that cuprous chloride could be substituted for silver chloride as the cathode, and a 1928 United States patent (No. 1,696,873, issued to Wood, R. 565–567) explicitly taught the similar interchangeability of zinc and magnesium. In all, as the trial commissioner found (R. 703–704), there had been at least four publications of batteries prior to Adams' showing magnesium as an electrode and at least three publications showing the use of cu-

prous chloride as an electrode. Finally, and conclusively, one prior British patent of 1880 (Skrivanoff, R. 591–595) actually showed, exactly as did Adams, "a battery having an electrode of magnesium, [and] an electrode of cuprous chloride *mixed together with* some seven other substances" (R. 703; emphasis in original).[7] The United States contended that, in view of these prior disclosures, the Adams battery could not possibly meet the standards of patentability set out in 35 U.S.C. 101, 102 and 103 (R. 702).

In light of this history, the trial commissioner expressly found that "[e]ach of the elements of the several claims of the Adams patent was individually old in the battery-making art at the time of the filing of the Adams application for the patent here in suit" (R. 704); that "the individual constituents of the Adams battery have been long known in the art and have been used in various combinations in numerous batteries developed in the past" (R. 691); that "each of the elements of the Adams battery was well known in the battery-making art at least 50 years before the Adams application for letters patent" (R. 691); and that "it was known to one skilled in the battery art that the various individual components of the Adams battery could be used in design-

[7] As we show *infra*, pp. 15–16, the fact that cuprous chloride in the Skrivanoff battery was "*mixed together with*" other substances does not relevantly distinguish it from the Adams battery, where the cuprous chloride was fused with a carbon catalyst. In any event, the mixture in the cuprous chloride cathode of another substance was not found to be part of the invention here (see footnote 4, *supra*, p. 5).

ing batteries" (R. 691). Nevertheless, the trial commissioner went on to find the Adams patent valid because, in his view, Adams had combined the elements specified in the claims relied upon—a magnesium anode and a cuprous chloride cathode—for the first time. The commissioner found that "[t]here is no evidence that anyone had ever before suggested the specific *combination* of elements which make up the Adams battery * * *" (R. 704, emphasis in original) and thus "the validity of the Adams patent is sustained on the ground that, in a crowded art, Adams selected *specific* components from the group of known battery components and found that the *combination* of these specific components resulted in a workable battery having unique and unexpected characteristics."[8] (R. 695, see also R. 691–693; emphasis in original.) In a *per curiam* opinion (R. 689–690) the Court of Claims adopted these findings and conclusions.

INTRODUCTION AND SUMMARY

Patents represent a compromise between the general prohibition which a free society places upon the grant or acquisition of monopolies and the fact, explicitly recognized by the Framers, that limited monopolies may nevertheless be desirable in order ade-

[8] The unexpected characteristics mentioned are, apparently, the facts that the Adams battery "would have a substantially constant potential, could be operated under extreme temperatures, and could be operated with ordinary or distilled water" (R. 704). We show *infra*, pp. 18–22, that these operating characteristics cannot elevate the design of the Adams battery, otherwise unpatentable, into a patentable invention.

quately to reward invention and thereby "promote the Progress of Science and useful Arts." Each case in which the validity of a patent is in issue involves a conflict between these competing principles. Save for unusual cases of intrinsic importance, individual litigation over the issue of validity rarely has national significance. However, the place where the balance of patentability is struck over the general run of cases has enormous importance to the goals of free competition, on the one hand, and adequate compensation for the true inventor, on the other. "It is as important to the public that competition should not be repressed by worthless patents, as that the patentee of a really valuable invention should be protected in his monopoly * * *." *Pope Mfg. Co.* v. *Gormully,* 144 U.S. 224, 234. Moreover, as this Court recognized more than eighty years ago in striking down a patent for want of invention, an "indiscriminate creation of exclusive privileges" fails even to achieve the objective of encouraging invention for, by restricting free use of the technological tools of society it "tends rather to obstruct than to stimulate invention." *Atlantic Works* v. *Brady,* 107 U.S. 192, 199–200.

The United States asked the Court to grant the writ of certiorari in this case because we were convinced "that this case sharply illustrates a growing tendency in the lower federal courts to adopt and apply a new and much laxer standard of invention which, in its aggregate manifestations, seriously impairs efforts to maintain a predominantly competitive economy by creating countless unnecessary and

unwarranted monopolies" (Pet. 7). The type of patent in this case—a so-called combination patent—has long been recognized as especially dangerous to competition and progress if indiscriminately granted because it is concededly composed of old elements which a patent would withdraw from unrestrained use. Thus, as this Court said in 1950, an invalid combination patent "which only unites old elements with no change in their respective functions," "obviously withdraws what already is known into the field of its monopoly and diminishes the resources available to skillful men." As a consequence, "[c]ourts should scrutinize combination patent claims with a care proportioned to the difficulty and improbability of finding invention in an assembly of old elements." *A. & P. Tea Co.* v. *Supermarket Corp.*, 340 U.S. 147, 152–153. We seek to show, *infra*, that such scrutiny easily and convincingly demonstrates that the combination patent in this case revealed no patentable invention.

Combination patents have, in the past, been sustained by this Court in appropriate circumstances.* Neither the Court nor the patent statute, however, has ever attempted to set out with precision a comprehensive test to be applied in such cases. Because of the highly technical nature of many of the cases and the almost infinite variety of forms of allegedly new combinations of old materials which are possible, the problem does not lend itself to such abstract formulation, and we do not attempt such a formulation here.

*E.g., *Keystone Mfg. Co.* v. *Adams*, 151 U.S. 139; *Diamond Rubber Co.* v. *Consolidated Tire Co.*, 220 U.S. 428.

In the absence of such a serviceable test, an area of doubt in close cases will thus inevitably be present where validity is in issue. The Patent Act does, however, clearly set out three standards which every patent must meet to insure that monoply does not interfere with areas properly reserved for free competition. The alleged invention must be "new" and "useful" (35 U.S.C. 101) and, if it meets those requirements, it must in addition not be such that "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." (35 U.S.C. 103). We submit that, lacking a meaningful comprehensive test of patentability, it is important for the Court to establish that these statutory tests are to be rigorously and independently applied where validity is in question.

The straightforward application of the three statutory tests is dispositive of the present litigation. While the battery disclosed by the Adams patent in this case is, concededly, "useful" within the meaning of the statute, it meets neither of the other two criteria. The Adams battery was not "new", and, even if some element of the combination incorporated in the battery *could* be characterized as new, it is clear beyond doubt that the "innovation" thus recognized would be one which "would have been obvious at the time the invention was made to a person having ordinary skill in the art." Thus the Court should hold that, under the statutory criteria, the Adams battery

was clearly not a permissible subject of a patent monopoly.

As we have said, we think it doubtful that an attempt at verbal refinement of the third statutory criterion of patentability—that a patentable invention must be one which would not "have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains"—would contribute substantially to the resolution of particular cases. The important consideration, we believe, is that each patent application be scrutinized with care and that the standard, as written, be rigorously applied. We recognize, however, that the recent laxity in the standard of invention which we noted in the petition for certiorari may be attributable, in part, to the explicit incorporation of this standard in the Patent Act for the first time in 1952. In this connection there exists a dispute among scholars regarding whether the enactment of Section 103 in the 1952 Patent Act was designed to make more permissive the existing standard of patentability, as reflected in judicial decisions elaborating the old statute, by eliminating a supposed requirement that a patentable invention reflect a "flash of genius." We set forth our views in regard to this controversy in the Appendix to this brief. In essence our view is that Congress, in 1952, believed that it was codifying existing law but probably did not consider that the so-called "flash of genius" concept (which had rather questionable standing as an independent test of patentability before 1952) was an attribute of the long-standing requirement, codified in Section 103, that the invention be

785-361—65——3

more than a development which would have been obvious "to a person having ordinary skill in the art." Thus, while the 1952 Act codified the requirement of non-obviousness, as that test had been judicially elaborated over more than one hundred years, it barred any trend to require, in addition, that a patentable invention independently incorporate a "flash of genius." The dispute over the precise meaning of the 1952 Act is, therefore, academic in this case, for no more than a literal application of the present statutory standard was necessary to invalidate the Adams patent.

ARGUMENT

I

THE ADAMS BATTERY WAS NOT NEW

Section 101 of the Patent Act (35 U.S.C.) requires that a patentable device be "new." Section 102 sets out, in negative form, criteria by which it may be determined that a device is *not* "new" for this purpose. The criterion directly relevant to the present case is that a device is not to be deemed patentable if,

> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent * * *.

Under this criterion, we submit that it is clear that the Adams battery was not new. As set forth in the Statement, *supra,* the essential element of invention found in the Adams battery by the Court of Claims was the alleged combination for the first time, in a

battery with a liquid electrolyte, of electrodes of magnesium and cuprous chloride. The trial commissioner found "no evidence that anyone had ever before suggested" this "specific *combination* of elements." (R. 704.) This finding, however, seems clearly erroneous in light of the Skrivanoff British patent of 1880 (R. 703, 591). The Skrivanoff patent, just as the Adams patent, showed a battery with electrodes principally composed of magnesium and cuprous chloride in a liquid electrolyte. Under Section 102(a), therefore, the combination of these elements as electrodes by Adams was not new and, hence, not patentable.

The opinion below suggests two possible reasons why the trial commissioner may have ignored the Skrivanoff battery in concluding that the Adams combination of magnesium and cuprous chloride electrodes was new under Section 101. First, the commissioner seems to have emphasized that, in the Skrivanoff battery, the cuprous chloride in the negative electrode was "*mixed together with*" other substances (emphasis in the original) (R. 703). The fact is, however, that in the Adams battery, cuprous chloride is also mixed with a catalyst—in Adams' case, carbon—(Patent claim 10, R. 395) and that carbon also appears in the Skrivanoff formula for the electrode in the form of charcoal to which the cuprous chloride is adhered (R. 592–593). While Skrivanoff mixes other substances, in addition to charcoal, with the cuprous chloride electrode, no claim is even remotely made that it was invention on Adams' part to use a carbon catalyst previously used by Skrivanoff while

merely omitting some other elements of the Skrivanoff formula. Thus, this variation does not destroy the identity for patent purposes of the Skrivanoff and Adams formulae. In any event, it seems clear that the nature of the materials, if any, to be combined or added to the cuprous chloride electrode was not an element of the claimed Adams invention as found below: One of the two patent claims which the trial commissioner found to be specifically relied upon by plaintiffs (Patent claim 1, R. 701) entirely omits mention of the carbon catalyst, and the commissioner himself, in describing the disclosure of the Adams patent (Finding 9, R. 698) also omits mention of the carbon catalyst. The Adams claim was, in essence, the combination of magnesium and cuprous chloride as the principal functional elements of the electrodes, and in this respect Skrivanoff fully anticipated Adams.

Secondly, the trial commissioner may have ignored the Skrivanoff patent in concluding that Adams' combination was new because he found that the "evidence establishes that the disclosure of this very old patent is inoperative" (R. 703). This factor was also irrelevant, however, since neither the opinion or findings below or the patent claims relied upon show how Adams' variations, if any, on the basic Skrivanoff formula made the prior battery operative. A patent cannot be claimed on the basis that the Adams battery worked while the Skrivanoff battery did not, without some disclosure that the effectiveness of the Adams battery was the product of a patentable innovation, rather than, for example, superior or purer materials

or some other non-patentable change. While the burden of proving invalidity originally rested upon the United States (35 U.S.C. 282), once the United States had shown that Adams merely repeated a combination of chemical elements previously shown by Skrivanoff, the burden fell to plaintiffs to show how, if at all, the patent claims encompassed a patentable variation on that combination. There is no suggestion that this burden was met.

The claims of the Adams patent were shown to differ from Skrivanoff only in the electrolyte used (Skrivanoff used a "strong electrolyte," R. 703, while Adams used a liquid, primarily water, described in footnote 4, *supra*, p. 5), and in the substances mixed with the cuprous chloride electrode. We have shown in the previous paragraph why the composition of the electrode was not a patentable innovation supporting the decision below, and the composition of the electrolyte is not even described in the Adams claims relied upon as supporting patentability.

Respondents fare no better if the Skrivanoff patent is ignored. For, while Skrivanoff is the only prior publication showing the precise combination of magnesium and cuprous chloride electrodes found to be patentable in the Adams battery, the prior art shows (1) that the combination of zinc and silver chloride electrodes in a fluid eletrolyte was well known and (2) that magnesium and cuprous chloride were well known specific substitutes for, respectively, zinc and silver chloride in precisely the same sort of battery in which zinc and silver chloride had been used in the battery art. In effect, as the tables in a 1929 treatise

exemplify (R. 553, 556, 562), the art knew of a finite, interchangeable list of substances, all capable of functioning as electrodes in batteries with fluid electrolytes. Adams drew two substances from this limited list and combined them in the very way in which the list indicated they could be combined. Even if the prior Skrivanoff patent had not shown Adams' combination, Adams at most tried a particular permutation, which was known but which had not been tried before, from among the various possible known combinations. It would denigrate any meaningful standard of novelty to hold that Adams' battery was therefore "new." Rather, since the potential practical use in combination of both of the Adams electrode components was established in the very way in which Adams claimed their use, the only conclusion which can be drawn consistent with scrutiny appropriate to combination patents (see *A. & P. Tea Co.* v. *Supermarket Corp., supra,* 340 U.S. 147, 152–153) is that Adams "invention was known * * * by others" and, therefore, was not "new" within the meaning of Sections 101 and 102 of the Act.[10]

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[10] We recognize that the foregoing analysis showing lack of novelty in the Adams battery has called for an examination in some detail of the elements of the prior art. Such minutiae are ordinarily not properly this Court's concern in cases of little individual importance. The reason for bringing this case to the Court, however, was not only that such careful examination of the novelty of the patent here in question had been lacking below, but that this failure was symptomatic of an increasing laxity in the application of the statutory standards of patentable invention. It is important for the Court to re-emphasize the care required in the application of these criteria to combination patents.

II

EVEN IF THE ADAMS BATTERY COULD BE CONSIDERED NEW, THE INNOVATION WAS ONE WHICH "WOULD HAVE BEEN OBVIOUS AT THE TIME THE INVENTION WAS MADE TO A PERSON HAVING ORDINARY SKILL IN THE ART"

We have shown that the most straightforward ground for rejection of the Adams patent is that it was not "new" within the meaning of the Patent Act. Even if the combination of magnesium and cuprous chloride electrodes is deemed to constitute an innovation, however (by ignoring the Skrivanoff patent and focusing upon the fact that Adams could therefore be deemed the first actually to combine those two elements), the Adams battery fails of patentability because whatever innovation was thus present "would have been obvious at the time the invention was made to a person having ordinary skill in the art" within the meaning of Section 103 of the Act.

Section 103 was added to the statute by the Patent Act of 1952. In substance, however, it repeats a test of patentability first announced by this Court more than one hundred years before in *Hotchkiss* v. *Greenwood,* 11 How. 248, 265, 266, where the Court approved a jury instruction holding that, as a condition of patentability, an invention had to be the product of greater "ingenuity or skill" "than [that] possessed by an ordinary mechanic acquainted with the business." There is considerable controversy whether, by thus enacting the *Hotchkiss* test, the 1952 Act meant merely to codify or was designed to liberalize the existing standards of patentability which had been

judicially evolved under *Hotchkiss*. In the Appendix to this brief, we set forth our view of the history of the original *Hotchkiss* test and its relationship to Section 103 of the 1952 Act (*infra*, pp. 23–29). In short, our view is that the change, if any, accomplished by the 1952 Act was to preclude a relatively recent suggestion of uncertain validity—inconsistent with the application of *Hotchkiss* over most of the preceding century—to require not only that a new and useful invention be beyond the skill of an ordinary mechanic, but that it embody a "flash of creative genius" as well. See *Cuno Engineering Corp.* v. *Automatic Devices Corp.*, 314 U.S. 84, 91. However, we do not believe that the resolution of this controversy is directly relevant to the disposition of this case. The cases which we stress in applying the *Hotchkiss* test to combination patents (*Great A. & P. Tea Co.* v. *Supermarket Equipment Co.*, 340 U.S. 147, and *Sinclair & Carroll Co.* v. *Interchemical Corp.*, 325 U.S. 327) did not apply the "flash of genius" terminology or standard,[11] and such a standard, which we do not believe was ever adopted as an independent test of patentability, is unnecessary to invalidate the patent here. Under the minimal requirement of creativity which can reasonably be attributed to Section 103, the Adams battery, if novel at all, is rendered non-patentable.

If the Adams battery contained any innovation at all, it was in the "new" combination of magnesium and cuprous chloride electrodes. These were, how-

[11] Indeed, the *Sinclair* case, 325 U.S. at 331, made it explicit that the statute "is not concerned with the quality of the inventor's mind, but with the quality of his product."

ever, known chemical equivalents of electrodes commonly used in this sort of battery. This equivalence was basic to the battery art long before Adams. Thus, if Adams did anything new, he at most put into practice a battery composed of components which anyone "skill[ed] in the art" would have listed as among the possible components of such a battery if asked to compile a list of the available combinations of electrode materials. Indeed, all the elements of the Adams electrodes appear on charts reproduced in the 1929 treatise cited in the Statement (R. 556, 562). If the requirement of Section 103 is to be given any real significance with regard to combinations of old elements, it must preclude the patent claim in this case, where the alleged invention concededly consisted of nothing more than the use of known battery components from a list of known possibilities in a battery of known design.

While its opinion is not wholly clear on the point, the Court of Claims seems, in part, to attempt to avoid this analysis by relying upon what it found to be the "unique and unexpected" operating characteristics of the Adams battery (R. 691–693, 695, 704). The characteristics referred to are, apparently, the facts that the Adams battery "would have a substantially constant potential, could be operated under extreme temperatures, and could be operated with ordinary or distilled water" (R. 704). However, if, as we submit, the combination of magnesium and cuprous chloride in the Adams battery was not patentable because it represented either no change or an insignificant

change as compared to prior battery designs, the fact that, wholly unexpectedly, the battery showed certain valuable operating advantages over other batteries would certainly not justify a patent on the essentially old formula.

To a considerable extent the facts underlying the Adams claim in this regard are analogous to those which were before this Court in *Sinclair & Carroll Co.* v. *Interchemical Corporation,* 325 U.S. 327. Desirous of developing a printing ink which was substantially non-drying at ordinary temperatures but which dried instantly on heating of the printed matter, the patentee experimented with solvents "selected from a catalog of a chemical manufacturer." *Id.* at 331. There, as here "[t]he patent in suit was not the product of long and difficult experimentation" but rather a trial and error type of examination of known chemicals. In these circumstances, the fact that the combination, once produced, met with success did not erect a routine development by one skilled in the art into a patentable invention.[12] The Court thus held the patent invalid, and the similar nature of the case at bar calls for a similar result.

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[12] As this Court has repeatedly observed, the fact that a "process has filled a long felt want and has been a commercial success" is "relevant only in a close case where all other proof leaves the question of invention in doubt." *Dow Chemical Co.* v. *Halliburton Oil Well Cementing Co.*, 324 U.S. 320, 330. See also: *Great A. & P. Tea Co.* v. *Supermarket Equipment Corp., supra*, 340 U.S. at 153; *Jungersen* v. *Ostby & Barton Co.*, 335 U.S. 560, 567; *Toledo Pressed Steel Co.* v. *Standard Parts, Inc.*, 307 U.S. 350, 356–357; *Smith* v. *Hall*, 301 U.S. 216, 233; *McClain* v. *Ortmayer*, 141 U.S. 419, 428–429.

CONCLUSION

For the foregoing reasons, the judgment of the Court of Claims should be reversed.

Respectfully submitted.

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APPENDIX

The Relationship of Section 103 of the Patent Act of 1952 (35 U.S.C. 103) to the Common-Law Standard of Patentability Formulated in Hotchkiss *v.* Greenwood

The authors of the Constitution, in an effort to lay the groundwork for a unified federal patent system, authorized Congress "[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive right to their respective Writings and Discoveries."[1] In discharge of this responsibility, Congress has over the years legislated that, upon the satisfaction of certain conditions, an inventor could obtain a limited monopoly affording him exclusive control over the fruits of his genius.[2]

Congress responded to the Constitutional provision with the passage of the first United States patent statute in 1790:[3] "[U]pon petition of any person * * * [averring] that he * * * hath invented or discovered any useful art, manufacture, engine, machine, or device, or any improvement therein not before known or used * * * the * * * Secretary of State, the Secretary for the department of war, and the Attorney General, or any two of them, if they shall deem the inven-

[1] U.S. Const. Art. I, § 8.

[2] For the history of our federal patent legislation see: Federico, *Commentary on the New Patent Act*, 35 U.S.C.A. 1; H. Rep. No. 1923, 82d Cong., 2d Sess., pp. 3–5 (1952); S. Rep. No. 1979, 82d Cong., 2d Sess., p. 6 (1952).

[3] Act of April 10, 1790, ch. 7, 1 Stat. 109.

tion or discovery sufficiently useful and important * * * [are authorized to] issue letters patent" for a period not exceeding fourteen years.[4] With the passage of the second federal patent act in 1793, which converted the issuance of patents into a clerical function, there was added the requirement that an invention, to be patentable, must be "new and useful."[5] While succeeding Congresses enacted a considerable amount of legislation relating to our patent system, the dual requirements of "novelty" and "utility," formalized in 1793, remained the exclusive statutory standard of patentability until the enactment of the Patent Act of 1952.[6]

However, this Court, in the 1850 landmark decision of *Hotchkiss* v. *Greenwood,* 11 How. 248, gave expression to a third statutory requirement of a patentable invention which the Court apparently deemed implicit in the original legislation. To be patentable, the Court ruled an invention must not only be new and useful, but also be the product of a greater degree of ingenuity or skill than possessed by "an ordinary mechanic acquainted with the business." *Id.* at 266. In 1952, after one hundred years of judicial application of the *Hotchkiss* test, Congress

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[4] *Ibid.*

[5] Act of February 21, 1793, ch. 11, 1 Stat. 318.

[6] Act of July 19, 1952, ch. 950, 66 Stat. 792, 35 U.S.C. 1, *et seq.*

Principal among the intervening acts were those of 1836 [Act of July 4, 1836, ch. 357, 5 Stat. 117] and 1870 [Act of July 8, 1870, ch. 230, 16 Stat. 198]. The former, undoubtedly a product of the dissatisfaction stemming from the indiscriminate grant of patents following the conversion, in 1793, of the patent issuance function into a ministerial act, created the organizational structure of our patent system as we know it today. The 1870 Act, passed as part of the program to revise and consolidate all existing laws, thereafter became Section 4886 of the Revised Statutes of 1874.

formally embraced that standard by providing, in addition to the express statutory requirements of novelty and utility, that "A patent may not be obtained * * * if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains."[7]

This statutory language was added with the object of "paraphras[ing] language which has often been used in decisions of the courts" in the hope of obtaining "uniformity and definiteness" and to "have a stabilizing effect."[8] The addition, however, has apparently fallen short of accomplishing its intended purpose. As a Congressional study observed several years ago, "the various circuits are unable even to agree as to the legislative intent expressed in section 103. One view holds that the standard of patentability was unchanged by the enactment of section 103, while the other position is that it was the intent of Congress to relax the rigid test of patentability previously laid down by the Supreme Court."[9] We now examine these positions in light of the legislative history of the 1952 Act.

In June, 1951, Subcommittee No. 3 of the House Committee on the Judiciary held hearings on H.R. 3760, "A Bill to Revise and Codify the Laws Relating To Patents and the Patent Office, and To Enact Into Law Title 35 of the United States Code Entitled

[7] 35 U.S.C. 103.

[8] H. Rep. No. 1923, 82d Cong., 2d Sess., p. 7 (1952).

[9] See *An Analysis of Patent Litigation Statistics*, Staff Report of the Senate Subcommittee on Patents, Trademarks, and Copyrights of the Committee on the Judiciary, 86th Cong., 2d Sess., p. 1 (Committee Print, 1961).

'Patents.' "[10] Mr. Charles J. Zinn, the Committee's Law Revision Counsel, explained that the bill was "part of the comprehensive program of revising and enacting into law all the titles of the United States Code."[11] It was explained that, as the House Subcommittee had jurisdiction over both the revision of the laws and the subject of patents, a preliminary draft of the bill[12] "included a collection of a large number of proposed amendments which had come to the attention of the Congress, as well as the codification itself."[13] However, "[a]s a result of comments received" upon the circulation of that draft, "the committee decided to eliminate numerous proposed changes from the bill and defer them for later consideration, and to limit the bill to the main purpose of codification and enacting title 35 into law, with the further object of making a number of minor procedural and substantially noncontroversial changes."[14] This is not to say that the Act was simply a compendium of prior legislative statements; the codification was to embrace judicial decisions as well. Specifically with regard to Section 103, the Committee was told that "Section 103 does something attempted for the first time in our statute, and that is to write down a condition *which exists* in the law *and has*

[10] H.R. 9133, 81st Cong., 2d Sess. (1950), a substantially similar bill introduced in the preceding Congress, was never acted upon.

[11] Hearings Before Subcommittee No. 3 of the House Committee on the Judiciary, 82d Cong., 1st Sess., p. 20 (1951).

[12] Subcommittee No. 4 of the House Committee on the Judiciary, 81st Cong., 2d Sess., Proposed Revision and Amendment of the Patent Laws (Committee Print, 1950).

[13] See Hearings, *supra*, note, 11 at 21.

[14] *Ibid.*

existed for well over 100 years, but only by decisions of the courts." [15]

As the result of the hearings held on H.R. 3760, the bill was revised and introduced in the following Congress as H.R. 7794.[16] In keeping with "the main purpose of codification and enactment of title 35 into law" it was decided to defer action on most of the proposed changes, save for "some minor procedural and other changes deemed substantially noncontroversial and desirable": notably, the "incorporat[ion of] a requirement for invention in § 103 and the judicial doctrine of contributory infringement in § 271." [17] These changes from the preceding statute were, however, wholly consistent with the notion that Section 103 was designed merely as a codification: As observed above, while the standard of invention articulated in Section 103 had no statutory precedents, it had become part of the judicial gloss upon the patent statute.[18]

The bill passed both houses of Congress with very little debate. It was not until the bill, which already had passed the House, was initially approved by the Senate that the first discussion was recorded. In

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[15] Testimony of P. J. Federico, Examiner in Chief, United States Patent Office, Hearings, *supra*, note, 11 at 38 (emphasis added).

[16] H. Rep. No. 1923, 82d Cong., 2d Sess., p. 1 (1952); S. Rep. No. 1979, 82d Cong., 2d Sess., p. 1 (1952).

[17] See H. Rep. No. 1923, *supra*, note 16, pp. 3, 5. A deliberate alteration of the existing standard of invention would clearly not have been deemed "noncontroversial."

[18] Referring to Section 103 the House Report states that it "for the first time in our statute, provides a condition which exists in the law and has existed for more than 100 years, but only by reason of decisions of the courts." *Id.* at 7. With respect to Section 271, see *id.* at 9.

reply to a request that the bill be passed over, Senator Wiley, its floor-manager, stated:

> The bill provides for a codification of the patent laws, and the House of Representatives has worked on this subject for 3 or 4 years. The bill simply constitutes a restatement of the patent laws of the United States.[19]

The bill was then placed at the foot of the calendar and, when recalled, was the subject of the following debate:

> Mr. SALTONSTALL. Mr. President, will the Senator from Nevada tell us the purpose of the bill?
>
> Mr. MCCARRAN. The bill would codify the patent laws of the United States. It is under the able guidance of the Senator from Wisconsin [Mr. Wiley].
>
> Mr. SALTONSTALL. I am not a patent lawyer, but I know patents are a very technical subject. Does the bill change the law in any way or only codify the present patent laws.
>
> Mr. MCCARRAN. It codifies the present patent laws. It passed the House, and it was approved by the Judiciary Committee of the Senate.

Proponents of the "relaxed-standard" school—*i.e.*, those who argue that the standard of invention was liberalized by the enactment of Section 103—argue that the above colloquy must be disregarded in view of the prepared statement which, immediately thereafter, was read by Senator McCarran. After noting that "the bill * * * represents a step forward in the codification of our laws, for it brings together in one package all of the laws relating to patents that were contained in the revised statutes of 1874 down to the present time," Senator McCarran stated: "In view of decisions of the Supreme Court and others as well

[19] 98 Cong. Rec. 9097 (1952).

as trial by practice and error there have been some changes in the law of patents as it now exists and some new terminology used." [20] However, the changes expressly discussed by Senator McCarran in his statement were technical in nature and unrelated to Section 103, and it is entirely possible that, in referring to "some changes in the law of patents," the Senator had reference to the fact that the statutory law was being changed expressly to incorporate previous judicial decisions interpreting the statute.

H.R. 7794 became the Patent Act of 1952 without further discussion. The Reviser's Note reiterates that Section 103 represents an attempt to state explicitly the standard of invention "followed since at least as early as 1850." [21] The note goes on to emphasize that Section 103 is not the definitive statement on the standard of patentability: the "paragraph is added with the view that an explicit statement in the statute may have some stabilizing effect, and also to serve as a basis for the addition at a later time of some criteria which may be worked out." [22] The unmistakable meaning is that the enactment of the section was meant to incorporate into the statute the original *Hotchkiss* test: a patent may not be granted if the subject matter would have been obvious to one skilled in the art.[23] Thus Congress declined, in 1952, to adopt anew "an authoritative definition of invention, but chose instead to codify the *Hotchkiss* standard as a noncontroversial statement of what was clearly not patentable, meanwhile leaving open the question of how much more was also unpatentable.

[20] 98 Cong. Rec. 9323 (1952).

[21] Reviser's Note, 35 U.S.C. 103.

[22] *Ibid.*

[23] Section 101 (35 U.S.C. 101) is a substantial reenactment of the "new and useful" criteria of 1793.

In this view, section 103 defines the area of total patentable eclipse, without attempting to define how far the penumbra extends." [24]

Subsequent Congressional consideration has been given to the question of more fully articulating a standard of patentability.[25] The Subcommittee on Patents, Trademarks, and Copyrights of the Senate Committee on the Judiciary, after questioning why, in light of the fact that the Patent Act "was completely overhauled and codified in 1952 * * * there should now be any occasion for other than minor legislative changes," answered that the "overhaul, except in certain minor respects, was a codification, not a revision of existing law. Numerous substantive changes, some of which may have considerable merit, were suggested at that time, but were passed over in view of the sound disinclination to consider 'new matter' at that time." [26]

While the evidence thus strongly supports the view that Congress, in 1952, intended no deviation from the original "ordinary-skill" disqualification of *Hotchkiss,* as judicially developed over the previous one hundred years, there is one respect in which Congress may have understood that the promulgation of Section 103 would relax the standard of invention. In the years following *Hotchkiss* v. *Greenwood,* this Court, in describing the requirement of patentability, used, var-

[24] Note, *Section 103 of the Patent Act and the Standard of Invention: Comments on Lyon* v. *Bausch & Lomb Optical Company*, 44 Geo. L.J. 100, 111 (1955).

[25] See S. Rep. No. 1464, 84th Cong., 2d Sess., p. 4 (1956); S. Rep. No. 72, 85th Cong., 1st Sess., p. 8 (1957); S. Rep. No. 1430, 85th Cong., 2d Sess., p. 20 (1958); 104 Cong. Rec. 4419-4420 (1958) (remarks of Senator O'Mahoney).

[26] S. Rep. No. 1464, 84th Cong., 2d Sess., p. 12 (1956).

iously, terms such as "invention," [27] "inventive genius," [28] "inventive faculty," [29] "originative or initiative faculty," [30] "discovery," [31] and "flash of thought." [32] This verbal development culminated in *Cuno Engineering Corp.* v. *Automatic Devices Corp.*, 314 U.S. 84, 91, where the Court's opinion suggested that there might be an independent requirement that, to be patentable, an invention be the product of a "flash of creative genius" in addition to being a development beyond the talent of a mechanic skilled in the art. If one begins with the premise that this Court's holding in *Cuno* requires this independent attribute in addition to what had previously been required by *Hotchkiss* v. *Greenwood*, then, to be sure, Section 103 may be read as overturning that holding and returning to the

[27] *Stimpson* v. *Woodman*, 77 U.S. 117, 121; *Reckendorfer* v. *Faber*, 92 U.S. 347, 356; *Dunbar* v. *Myers*, 94 U.S. 187, 197; *Atlantic Works* v. *Brady*, 107 U.S. 192, 199; *Slawson* v. *Grand Street R. R. Co.*, 107 U.S. 649, 653; *Phillips* v. *Detroit*, 111 U.S. 604, 607; *Morris* v. *McMillin*, 112 U.S. 244, 247; *Burt* v. *Evory*, 133 U.S. 349, 358; *Florsheim* v. *Schilling*, 137 U.S. 64, 77; *Berlin Mills Co.* v. *Procter & Gamble Co.*, 254 U.S. 156, 166; *Toledo Pressed Steel Co.* v. *Standard Parts, Inc.*, 307 U.S. 350, 356; *Sinclair & Carroll Co.* v. *Interchemical Corp.*, 325 U.S. 327, 330.

[28] *Reckendorfer* v. *Faber*, 92 U.S. 347, 357; *Concrete Appliances Co.* v. *Gomery*, 269 U.S. 177, 185; *Mantle Lamp Co.* v. *Aluminum Co.*, 303 U.S. 544, 546; *Jungersen* v. *Ostby & Barton Co.*, 335 U.S. 560, 566.

[29] *Brown* v. *Piper*, 91 U.S. 37, 41; *Pearce* v. *Mulford*, 102 U.S. 112, 118; *Densmore* v. *Scofield*, 102 U.S. 375, 378; *Hollister* v. *Benedict Mfg. Co.*, 113 U.S. 59, 73; *Smith* v. *Whitman Saddle Co.*, 148 U.S. 674, 679; *Potts* v. *Greager*, 155 U.S. 597, 608; *Saranac Machine Co.* v. *Wirebounds Co.*, 282 U.S. 704, 713.

[30] *Smith* v. *Whitman Saddle Co.*, 148 U.S. 674, 679.

[31] *Dunbar* v. *Myers*, 94 U.S. 187, 197; *Toledo Pressed Steel Co.* v. *Standard Parts, Inc.*, 307 U.S. 350, 356.

[32] *Densmore* v. *Scofield*, 102 U.S. 375, 378.

original intention of the *Hotchkiss* standard.[33] There was sufficient ambiguity attending the passage of the 1952 Act for a court, beginning with this premise, to conclude that such a relaxation was intended.

Judge Learned Hand, one of the leading proponents of the "relaxed standard" school, so concluded in *Lyon* v. *Bausch & Lomb Optical Co.*, 224 F. 2d 530 (C.A. 2), certiorari denied, 350 U.S. 911. The patent at issue covered a process for the coating of optical lenses so as to prevent reflection. Confronted with the necessity of determining its validity, Judge Hand initially observed "that, had the case come up for decision within twenty, or perhaps, twenty-five, years before the Act of 1952 went into effect on January 1, 1953, it is almost certain that the claims would have been held invalid." 224 F. 2d at 535. However, in sustaining the patent the Second Circuit held that Congress intended to reject what that court found to be the stricter standard of patentability applied in recent years and to revert to the test of *Hotchkiss* v. *Greenwood, supra.* Section 4(a) of the 1952 Act,

[33] Indeed, the last sentence of Section 103, providing that "[p]atentability shall not be negatived by the manner in which the invention was made," seems explicitly to reject such an additional gloss. In this regard, the Reviser's Note to Section 103 provides:

> The second sentence states that patentability as to this requirement is not to be negatived by the manner in which the invention was made, that is, it is immaterial whether it resulted from long toil and experimentation or from a flash of genius.

See also, *Fisch* v. *Gould*, 246 F. 2d 5 (C.A. 3), certiorari denied, 355 U.S. 914; *Pacific Contract Laboratories* v. *Solex Laboratories*, 209 F. 2d 529, 532 (C.A. 9), certiorari denied, 348 U.S. 816.

providing for the Act's retroactive application to patents previously granted was, in the Second Circuit's view, incompatible with the conclusion that no change was intended. Judge Hand's rationale has been adopted by some circuits, but others hold to the view that no relaxation of the prevailing common-law standard was intended.[34] These differences seem principally to reflect different appraisals of the extent to which, if at all, the *Hotchkiss* standard had been tightened between 1850 and 1952.

Our analysis of the Court's teachings on patentability announced during the 100 years following *Hotchkiss* v. *Greenwood* leaves us convinced that the standard there articulated never was made deliberately more restrictive. Rather, we believe that the Court endeavored, through the utilization of descriptive embellishments, merely to supply definition to that standard, not to change it. Developments reflecting a "flash of genius," we submit, were merely deemed to constitute the opposite of developments "obvious" to

[34] See Note, *The Standard of Patentability—Judicial Interpretation of Section 103 of the Patent Act*, 63 Col. L.R. 306 (1963), for a summary of the reception which Section 103 has received among the various circuits. Judge Frank, for one, relying on cases holding that Section 103 was intended as but a codification of the existing common-law, expressed "serious doubts" as to the correctness of *Lyon*. *Vermont Structural State Co.* v. *Tatko Brothers Slate Co.*, 233 F. 2d 9, 11, fn. 3 (C.A. 2). Subsequently, in an opinion written by Judge Hand, the Second Circuit, without referring to Judge Frank's observation, reiterated its acceptance of the *Lyon* conclusion "that the Act of 1952 meant to change the slow but steady drift of judicial decision that had been hostile to patents * * *." *Reiner* v. *I. Leon Co.*, 285 F. 2d 501, 503, certiorari denied, 366 U.S. 929.

one skilled in the art.[35] Thus, with the codification of *Hotchkiss* Congress generally embraced the decisions in which this Court, over the course of years, had attributed meaning to that decision.

In any event, whether the standard of patentability was stricter just before 1952 than it was in 1850 and just after 1952 is, we submit, irrelevant to the disposition of this case. We show in the body of this brief that, under the most permissive reading which can rationally be accorded the requirement of *Hotchkiss* and the 1952 Act, a patentable invention must be more than a development which would have been obvious to one skilled in the art. The Adams battery cannot satisfy that test. If Adams worked any innovation at all, it was one which would have been considered a routine and predictable change by anyone familiar with the known and available components of battery electrodes.

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[35] We note that even in *Cuno Engineering Corp.* v. *Automatic Devices Corp.*, *supra*, where the Court employed the "flash of creative genius" phrase, it relied at the same time upon the established authorities, specifically referring to the "mechanical skill" test of *Hotchkiss* v. *Greenwood*. And the opinion in *Great A. & P. Tea Co.* v. *Supermarket Equipment Corp.*, 340 U.S. 147, the most recent occasion upon which this Court has addressed itself to the standard of patentability and a decision frequently cited by proponents of the "stricter standard" school of thought, is devoid of any evidence of an intention to add an independent "flash of genius" requirement to the century-old *Hotchkiss* standard.

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